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Ophthalmic Literature

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Ophthalmic Literature

VOL. VI. FEBRUARY, 1916. NO. 2.

Edited by EDWARD JACKSON. Assisted by WILLIAM H. CRISP.

STUDY IN EUROPE.

The graduate study of medicine in Europe has been largely merged in the Red Cross and military services for the care of war injuries. In work of this kind a good many American surgeons and physicians have found large opportunities for experience, and the collective study of certain diseases and classes of injuries. Apart from training for and in such duties, graduate medical teaching is practically suspended in all the belligerent countries.

Detailed figures are obtainable with regard to students of medicine; but in the German universities there were registered for the 1915 summer semester 1,305 students from other countries, as against 4,750 for the summer of 1914. Of these a few were from countries at war with Germany, as Russia, 62; Italy, 5; England, 2; and Belgium, 1. But the great majority—1,042—came from neighboring countries, allied with Germany in the war, or neutral. From America the number registered was 128, as against 298 of the year before. Among medical students in Germany from foreign countries the total fell from 2,124 in 1914 to 266 last summer.

But the German universities are keeping their organization, and the minority of teachers that remain continue to hold their former ideals and purposes. War, even on such a tremendous scale, with all its modern mechanical improvements and efficiency, makes slow inroads upon the existing civilization. If it ends any time in the near future, we may expect that the scientific teaching in European centers will be much the same kind of rival for American scientific teaching that it has been in the past. The comparative plastic social and political conditions, likely to exist in Europe at the close of the war, will be favorable to reforms and rapid development of new institutions, so that in some respects the methods of teaching in Europe are likely to improve.

All this applies to ophthalmology equally with other branches of medicine. Although there are few or none going from America to Germany now to study it, there are many waiting with the intention to do so a little later, as soon as the opportunity is again opened.

THE AMERICAN OPPORTUNITIES.

The war has opened to American teachers and educational institutions an opportunity, nothing more. It has not forced upon them organization, efficiency, good reputation or high ideals of thoroughness. These have been slowly developing all along, and only as they are quickened and pushed forward will the interruption of teaching

in Europe bring any real advance in teaching in this country.

Of clinical material the United States with its larger population, greater admixture of races and far wider variety of climate, offers far more than Germany. What is needed in America is the social and institutional organization to render such material available for the instruction of students.

It is often urged that the large part of the population forced by poverty to seek medical assistance from the public clinics, especially with regard to ocular conditions, gives a necessary superiority to the European teaching clinic. This is one of those peculiar fallacies that arise from lack of close observation, and are perpetuated by the tendency to accept without question what others have generally accepted. There is no American city of 250,000 inhabitants that does not furnish plenty of material of this class for a first-class school in ophthalmology; if only the teachers and the clinical and laboratory facilities were there ready to utilize it. There is not one of the larger cities in which this material is not wasted, the patients and their needs neglected, because the ophthalmologists and the business men of the city are too busy making money to give the needed time to treating these patients and organizing the needful institutions in which they might be treated and their conditions utilized for the instruction of another generation of workers in ophthalmology.

For one ophthalmologist who will take the time to master his specialty and prepare to teach it, and then devote time and energy to that purpose, there are too many who see in this branch of practice, or even in the "Professorship" of ophthalmology, only a means to enlarge their prospective incomes. What are needed in America are men who believe that teaching ophthalmology is worth while; both those who will devote themselves to it as an important part of their life work and those who will supply the institutions in which it can be well done. Then there are the opportunities furnished to assistants in private practice in which America should be particularly rich. But these must be reserved for future discussion.

THE CHICAGO OPHTHALMOLOGICAL SOCIETY.

(The following historical sketch is based on the one prepared by Dr. Casey A. Wood and published in connection with the Constitution and By-Laws and Membership Roster of the Society.)

As early as 1880 there were meetings of ophthalmologists and otologists practicing in and near Chicago, although these conferences were quite informal. The sessions were held irregularly and there was no definite organization. The ophthalmic and aural surgeons who came together in this way met in one another's offices and, upon rare occasions, at the Tremont House. They read papers, discussed topics of mutual interest, exhibited instruments and reported their experiences of trips to Europe and studies at foreign clinics. Generally the meeting elected a chairman and a secretary for the particular evening upon which they met. The principal business of the

secretary was to arrange, in conjunction with the chairman of the evening, the program, date and locality of the next session. These early ophthalmologists and otologists included Drs. E. L. Holmes, A. P. Gilmore, F. C. Hotz, Samuel J. Jones, Henry Gradle, J. E. Colburn, Edwin J. Gardiner, Lyman Ware and W. T. Montgomery. As a rule the secretarial office was filled by Dr. A. P. Gilmore.

This more or less organized society, under the name of the Chicago Ophthalmological Society, held meetings four or five times a year for about three years, when they were discontinued for a time. Their revival was chiefly due to Dr. Boerne Bettman, who, in conjunction with several other ophthalmologists living in the city at that time, resuscitated it and reorganized both the oculists and the aurists of Chicago under the formal title of the Chicago Ophthalmological and Otological Society. Dr. Bettman was the first secretary and acted in this capacity as long as the society survived. Drs. Holmes, Hotz, Gilmore and Montgomery were among those who acted as chairmen. As at the meetings of the previous society, there was no regular chairman or president elected for the year; that official was chosen at and for each meeting. The sessions were held monthly and generally took place in the offices of the members. With the addition of the names of Drs. G. F. Hawley, H. M. Starkey, Boerne Bettman and John E. Harper, the second society had about the same membership as the first. Once more this society discontinued its labors and for a few years, 1889 to 1892, there were no meetings.

In 1893, however, owing chiefly to the efforts of Dr. C. P. Pinckard, a conference of surgeons practicing ophthalmology and otology was held in Weber's Restaurant, where the Chicago Ophthalmological and Otological Society was born. The first president was Dr. E. L. Holmes. The first secretary was Dr. C. P. Pinckard, who continued to hold office until the year 1902. The charter members so far as I have been able to place them, were Drs. Geo. F. Fiske, Samuel J. Jones, C. P. Pinckard, F. C. Hotz, Henry Gradle, Casey A. Wood, Boerne Bettman, W. T. Montgomery, Edwin J. Gardiner, Chas. H. Beard, W. Franklin Coleman, J. E. Colburn, H. M. Starkey, Lyman Ware, Wm. A. Fisher, F. D. Stannard and Robert Tilley. In 1903 the society had so increased in numbers that it was decided to confine its activities to a study of the various relations of the visual apparatus and to the encouragement of a rational practice of ophthalmology. In this fashion was evolved the present Chicago Ophthalmological Society with its 129 active members and five honorary members.

In 1897, during the secretaryship of Dr. Pinckard, the Society began to publish an abstract of its proceedings in the OPHTHALMIC RECORD, and subsequently in other journals, which have given them a wide circulation. In this way the cases shown before it and the discussions elicited became of value to a wider circle and permanently available for reference to its own members. Its meetings are held the third Monday of each month from October to May, inclusive. Its membership is drawn from the city of Chicago—eighty-three—and

other parts chiefly from Illinois and neighboring states. But by retention of membership by those who have moved away from this region, it now claims members in points as remote as Massachusetts, Oregon, California and Brazil. A striking instance of the strength and enterprise of the Society is seen in the publication of two of its symposiums in separate volumes. The one upon "The Extraction of Senile Cataract," which took place in November, 1911, made a volume of 174 pages; that upon "Glaucoma," which occupied the meeting of the Society in November, 1913, furnished a volume of 150 pages. The scientific meetings of this Society are preceded by a dinner, at which a considerable proportion of those who propose to attend the meeting can come together for social intercourse.

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Abstracts From Foreign Journals

Birch-Hirschfeld, A. Mixed Tumors of the Lacrimal Gland. (Graefe's Archiv für Ophthalmologie, Vol. 90, p. 110.)

In the personal case described, the tumor was removed four years after it had been first noticed by the patient, a man of 57 years. There was marked exophthalmus, and displacement of the eyeball downward and inward. The corrected vision of this eye was 1/4. The tumor was the size of a hen's egg. After a few months the visual acuity and the position and mobility of the eye had returned to normal, and a marked astigmatism due to the pressure of the tumor had disappeared. There was no sign of recurrence six years after the operation. The new growth was a typical mixed tumor of the lacrimal gland, its appearance under the microscope in different areas being respectively that of adenomyxoma, chondromyxosarcoma, carcinoma and cylindroma. Birch-Hirschfeld briefly discusses the literature of seventy-five cases, and upon these, and upon the examination of his own case, he bases the following conclusions:

(1) A large number of tumors which have been observed in the lacrimal gland and in its direct vicinity, and which have been described under various names, can be grouped under the single designation of mixed tumors. (2) These tumors are distinguished anatomically by a very complicated structure. They contain epithelioid cells, which are arranged as glandular formations, reticular chains of cells or solid

cellular columns. At times they morphologically correspond to true epithelium, presenting a basal membrane, typical intercellular trabeculae, and occasionally also signs of keratinization. The varying relations of these parenchymatous cells to the surrounding stroma, which is sometimes mucoid, sometimes hyalin, sometimes contains islands of cartilage, gives rise in some areas to the picture of an endothelioma; in others to that of a typical cylindroma, and again in others to that of an adenomyxoma or chondromyxoma. (3) The epithelial nature of these parenchyma cells appears to Birch-Hirschfeld more probable than their endothelial origin, and he is led to this view especially by a study of the mixed tumors of the salivary glands, with which those of the lacrimal gland show a striking correspondence. (4) The mixed tumors of the lacrimal gland are at first distinguished clinically by very slow growth, but may suddenly begin to grow rapidly and become malignant, in the sense that they lead to local recurrences and to the formation of metastases. (5) Early and complete removal of these tumors is therefore indicated, and this should be done as bluntly as possible. (6) In great probability, mixed tumors of the lacrimal gland and also those of the salivary glands, take their origin in a germ deposit due to disturbance of development (perhaps in the third embryonic month, when the primitive tissue of the lacrimal gland enters into relationship with the primordial cartilage of the frontal bone).

Cords, R. The Visual Function in Hemorrhage Into the Eye, and in Closure of the Lids. (Graefe's Archiv für Ophthalmologie, Vol. 90, p. 98.)

If the anterior chamber and vitreous are replaced by blood, then in looking directly towards the sun the best vision obtainable is a scarcely perceptible light sensation. If these intraocular fluids are half replaced by blood, only light sources above 25 candlepower can be recognized close in front of the eye. The light of a stearin candle is not visible with a blood content of 25 per cent. Even with stronger light sources, projection is absent in the presence of this amount of blood. In hemorrhage into the anterior chamber, candle light is recognized at a minimum of one meter; in these conditions projection is uncertain. Whereas with a blood layer of 0.7 mm. before the eye the visual acuity is limited to recognition of outlines, it becomes almost normal with a layer of 0.6 mm.

When the lid margins are completely adherent, the light of a stearin candle is well seen at one-half to one meter; but projection is uncertain even for stronger sources of light.

Fuchs, E. Keratitis Pustuliformis Profunda. (Graefe's Archiv für Ophthalmologie, Vol. 90, page 13.)

The sixteen cases upon a comparative study of which this paper is chiefly based have been observed by the author in clinical practice extending over a period of twenty years. Publication of an account of the disease was postponed until it should be possible to present anatomic findings. A summary is added of several cases reported from time to time by other writers, and apparently in general character resembling those seen by Fuchs.

The disease is not usually seen by the physician in its earlier stages, but it probably begins as a rule with an iritis. As regards the initial stage of the corneal infiltrate, in two of Fuchs' cases the opacity at first consisted of delicate, deeply situated gray lines or separate gray spots, as in keratitis parenchymatosa, from which later the pus-like yellow infiltrates developed. In most instances the disease had completely developed when the patient was first seen. The disease then appears as a deep suppurative corneal inflammation. One sees in the cornea yellow spots, which lie so deeply that there is

often uncertainty whether some of them do not consist of deposits on the posterior surface of the cornea. The size, form and location of these spots vary, from a pinhead to larger spots and stripes. The yellow spots are usually surrounded by delicate gray halos, which fade gradually into the delicate diffuse opacity which extends over the whole cornea. The surface of the cornea is always dull, and its sensibility is frequently reduced, but there is no loss of substance.

The corneal inflammation is always combined with a severe iritis. The iris is swollen and discolored, and there are always posterior synechiae, and often a membranous exudate in the pupil. There is a large hypopyon, which not infrequently fills the whole anterior chamber, and which is usually free from bacteria. In many cases there are actual deposits on the posterior wall of the cornea. In several cases in which it was possible to obtain a partial view of the posterior segment of the eye, there were vitreous opacities.

In only two cases did the spots entirely disappear. They ordinarily persisted as dense gray, deeply situated and often vascular opacities, several months being required to reach this condition. The vision was permanently damaged by the corneal opacities and by the consequences of the iritis. In especially severe cases the cornea was left flattened, sometimes anterior synechiae were formed without perforation having occurred, and in the worst cases there developed a moderate degree of atrophy of the eyeball with vision reduced to light perception.

Keratitis pustuliformis profunda is commonly unilateral. In only two of Fuchs' cases were both eyes involved, and to about an equal extent. Treatment had scarcely any influence on the course of the disease. More than half of Fuchs' patients were over 50 years old, and with one exception all were men. In no instance was any clear information as to the cause of the disease furnished by the patient's history. Four of Fuchs' patients had had syphilis.

The anatomical findings in three cases are described. In two of these the eye was enucleated, and in the third the eye was obtained after the death of the patient. There was an injury of the posterior corneal layers, which diminished in intensity from behind forward. In the mildest case only the endothelium was destroyed, in the second case the membrane of Descemet was broken down, and in the posterior layers of the cornea the nuclei of the corneal corpuscles disappeared and there was a leukocytic infiltration. In the worst case the posterior corneal layers had disappeared. In each instance the pupillary region was most involved. In only one case were bacteria found in the hypopyon, the organism in this case being the staphylococcus albus. The iris showed a cellular infiltration. In all the cases examined microscopically the inflammation was strictly limited to the cornea and iris.

Fuchs does not arrive at any definite conclusion regarding the cause of this disease. He thinks it possible that various exciting causes may produce the same clinical picture. As regards the name to be given to the condition, he at first, on a purely clinical basis, had adopted "keratitis pustulosa posterior." Reis had designated the disease as "deep central purulent infiltration of the cornea." In the light of the anatomic investigation, Fuchs now considers the name "Keratitis Pustuliformis Profunda" as the most suitable.

The paper is accompanied by sixteen illustrations.

Otori, K. Experimental Primary Retinal Tuberculosis. (Archiv für Augenheilkunde, Vol. 79, p. 44.)

This paper relates to two cases seen clinically, and also to experiments upon rabbits concerning ocular tuberculosis. In the first patient the left eye was enucleated on account of a hemorrhagic inflammation involving the iris and cornea. With the microscope, the retina

was found to be extensively destroyed, the nasal part being completely necrosed and a number of typical tubercles being present. Tubercle bacilli were demonstrated. This is the first case of primary retinal tuberculosis in which tubercle bacilli have been found in the tissues. A modified staining method was used for the microscopic sections; they were stained for from two to four hours with hot carbolfuchsin solution, then placed for a short time in 0.5 per cent hydrochloric acid-alcohol with some tincture of iodin and washed in distilled water, then differentiated in a solution of picric acid with indigo-carmine (saturated watery solution of picric acid 200 grams, indigo carmine 0.5 gram). The staining process was completed with alcohol and carbol-xylol. The tubercle bacilli were only found in parts of the retina which were relatively little changed. They were especially numerous in masses of round cells along the veins of the retinal periphery, and could not be found at all in the uveal tract.

In the second case the left eye was enucleated on account of hemorrhagic glaucoma secondary to a severe plastic iritis. In this case the anterior half of the nasal side of the retina was necrosed. Tubercle bacilli were found in every part of the retina, and they were extraordinarily numerous in a large expanse of the equatorial region. The large colonies of bacilli in the retina were sharply limited by the pigment epithelium layer, no bacilli being found in the choroid. They occurred in a few sections from the posterior part of the ciliary body, and were more numerous on the optic nerve head.

As regards the first case, Otori believes that the bacilli originally had their seat in the optic nerve head, and from there invaded the other tissues. The second case he believes to have been one of primary retinal tuberculosis. He regards the secondary infiltration in the uvea and also in the optic nerve trunk of both cases as in the nature of a toxic inflammation.

The experiments performed upon rabbits included (1) inoculation into the common carotid artery; (2) injection in the veins of the ear; (3) inoculation into the common carotid artery with simultaneous division of the ciliary vessels; (4) inoculation of the common carotid artery with ligation of the common jugular vein of the same side; and (5) inoculation into the common carotid artery with ligation of the common jugular vein. With none of these methods was a tuberculous localization of the disease obtained, although by some of them a tuberculous infection was obtained in the uveal tract. From these experiments Otori concludes that the rarity of primary retinal tuberculosis does not depend merely upon pecularities in the retinal circulation, but rather upon a natural lack of disposition of the retina towards primary tuberculous infection. The clinical cases reported are to be considered as arising by way of a perivasculitis of the retinal veins, directly caused by migration of tubercle bacilli into the lymph channels of the retina.

Siegrist, A., and Schenderowitsch, P. Treatment of Gonoblennorrhea of Newborn and Adults in Berne University Eye Clinic. (Klinische Monatsblätter für Augenheilkunde, Vol. 54, p. 228.)

Tabular statements are given concerning a large number of patients, including some adults, treated for gonorrheal conjunctivitis in the Berne clinic, with collargol and syrgol, respectively. Both drugs gave extremely good results, not only in uncomplicated cases, but also in cases with severe corneal complications, and not only in the newborn but also in adults. It was difficult to say which drug had the advantage. While, however, collargol was somewhat less agreeable on account of its black color, syrgol had the disadvantage of occasionally producing in the new-born, especially after its use in the conjunctival sac as an "eye-bath," an intestinal disturbance which the author speaks of as "stinking diarrhea," accompanied by a disturbance of the general

condition of the children. This is attributed to the syrgol having passed through the lacrimal apparatus into the nose and throat and so into the intestinal tract.

Seidel, E. Conduction Anesthesia by Posterior Orbital Injection. (Graefe's Archiv für Ophthalmologie, Vol. 89, p. 414.)

The article opens by quoting from a paper published in the Klinische Monatsblätter für Augenheilkunde, Vol. 49, p. 329, a description of the technique then used by the author for conduction anesthesia by deep orbital injection. Briefly, this technique included thorough cocainization of the conjunctival sac, infiltration of the bulbar conjunctiva with cocain combined with adrenalin, and progressively deeper injection of a similar solution through a long needle into the deeper tissues of the orbit, finishing the injection about half way between the foramen opticum and the entrance of the optic nerve into the eyeball. Practical use of the method has gradually demonstrated contraindications to its employment. These are the presence of severe or even suppurative conjunctivitis, especially in perforated panophthalmitic eyes; marked inflammatory edema of the upper and lower lids (with consequent risk from the injection of the anesthetic into the inflamed peribulbar tissues); certain cases of neoplasm, usually of malignant character; and cases of injury with extensive opening of the coats of the eye, as well as staphylomatous eyes with marked thinning of the cornea.

The present paper describes a new method of local anesthesia for enucleation and exenteration, which is applicable to all cases for which there are no contraindications and which can be used in the classes of cases just referred to with complete success, without any intolerance, so that general narcosis can now be almost completely dispensed with for these operations. The essential features of the new method consist in the introduction near the apex of the orbit of a novocain-adrenalin solution of small quantity but high concentration, the injection needle being introduced, not from before backward, but from below, behind the malar bone, along the posterior wall of the upper jaw, through the posterior third of the inferior orbital fissure in a direction at right angles to the axis of the orbit. The anesthesia produced in twenty minutes after this injection is an indirect conduction anesthesia, interrupting the conductivity of all the sensory nerves which run in close proximity to one another at the apex of the orbit.

The point of entrance of the needle lies about a finger's breadth below the anterior aspect of the inferior margin of the malar bone. After disinfection of this region with tincture of iodine, the skin is superficially infiltrated with a 1 per cent. solution of adrenalin and novocain. Next, with a needle about 4 centimeters long, about 6 cubic centimeters of the same solution are injected along the posterior surface of the upper jaw and in the pterygopalatine fossa, in the direction of the path later to be followed by the needle in approaching the orbit. These injections are purely preparatory, rendering the subsequent use of the rather stronger needle which is carried through the inferior orbital fissure into the orbit completely painless, a feature which is especially desirable if the fissure is not at once located, but has to be palpated for with the needle. Five minutes after the preliminary injections the posterior orbital injection proper is started. The author recommends for this a needle about 8 centimeters long, not quite 1 millimeter thick, and provided with a handle and obturator after the fashion commonly employed in lumbar puncture. Although the whole length of the needle is not completely utilized, a shorter needle is not desirable, because the greater length of needle has the advantage that the operator is able more accurately

to control the direction of the needle, especially when the greater part of it has already passed from view.

Carrying the needle slowly upward along the anterior edge of the masseter muscle, the operator aims at a point marked on the top of the cranium, preferably by placing there the index finger of the free hand. This objective point lies on the coronal suture a thumb's breadth towards the other side from the point of intersection of that suture with the sagittal suture. The point may be determined simply on the patient in the following manner: With the jaws closed, the head of the patient is tipped back until the plane of the horizontal portions of the lower jaw is exactly horizontal. Some such object as a tape measure is carried from the anterior margin of the mastoid process of one side behind the ear vertically over the cranium, to the mastoid process of the other side. The objective point above referred to then lies a thumb's breadth to the opposite side of the median line along this transverse line.

When the needle has been introduced about 4½ centimeters, a somewhat stronger resistance is encountered, the fibrous closure of the inferior orbital fissure, the posterior segment of which is traversed by the needle. At the moment when this occurs the patient experiences a slight pain. The end of the needle is now in the orbit. The trochar is at once withdrawn from the needle, a syringe containing 2 cubic centimeters of a 4 per cent. novocain-adrenalin solution is attached, and 1 cubic centimeter of the solution is slowly injected. During the injection the eyeball is watched carefully. The gradual development of a slight exophthalmus gives assurance of correct position of the needle. The needle is then slowly pushed forward about another ½ to 1 centimeter, whereupon another 1 cubic centimeter of the solution is injected. After further pushing forward of the needle this extends about 2 centimeters into the orbit, and the firm resistance of the upper orbital wall is encountered. The needle is now slowly withdrawn 2 centimeters, and during this withdrawal about 4 cubic centimeters of a 2 to 4 per cent. novacain-adrenalin solution are injected, the exophthalmus becoming meanwhile more pronounced.

Hitherto the author has usually employed a 2 per cent. solution. He will, however, in future give the preference to a 4 per cent. solution, since with this strength one can in case of necessity further limit the quantity employed. The toxicity of novocain is not to be feared, but it is necessary to pay more attention to the exact dose of adrenalin used, six drops being the maximum dose. It is of the greatest importance that the operation should not be begun too soon after completion of the injection. A waiting period of twenty minutes is always desirable. After this time enucleation and exenteration of the eyeball, as well as exenterations of the orbit, may be undertaken entirely without pain. Since the anesthesia extends to the first and second branches of the trigeminus, operations extending to the accessory sinuses may also be done painlessly by this method. If in making the injection hard bone is persistently encountered, force should never be used, but the needle should be withdrawn and reinserted after again carefully locating the objective point as above described. The only complication mentioned as occurring in the author's experience was a small hematoma of the cheek, which was soon resorbed. Particulars are given of a number of cases in which the method was successfully employed, including two panophthalmitic eyeballs, with severe edema of the lids and peribulbar tissues; one case of carcinoma of the orbit which had already proliferated in all directions around the eyeball; and one case of severe suppurative conjunctivitis with complete ectropion of the lower lid by cicatricial contraction towards the opening of discharge from an ill-smelling suppuration of the antrum of Highmore.

Ophthalmic Journals

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